

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

---

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/502,133	02/11/2000	Harold E. Helson	103544.127	4787

7590

07/02/2004

Jason A. Reyes  
Hale and Dorr LLP  
60 State Street  
Boston, MA 02109

EXAMINER

THOMSON, WILLIAM D

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/502,133

Applicant(s)

HELSON, HAROLD E.

Examiner

William D. Thomson

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-27 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

**RESTRICTION/ELECTION**

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. ~~Claims 1, 5, 9 and dependent claims 13-27, drawn to representing the~~  
instance of symmetry as a list of groups of equivalent atoms and bonds,  
and providing implied simulated movements such as mirroring and  
pivoting of the structures (for example as recited in dependent claims 13-  
27), classified in class 703, subclass 11.
- II. Claims 2, 6, and 10, drawn to determining from chemical structure  
diagrams a force term based on the difference between an optimal angle  
and a current angle, classified in class 702 , subclass 27 and Claims 3, 7,  
and 11 , drawn to producing shapes based upon parameters including the  
a bridge addition to the first chemical structure diagram, classified in class  
702, subclass 27.
- III. Claims 4, 8, and 12, drawn to tracking unused display area in layout area,  
classified in class 345, subclass 788 and classified in class 715, subclass  
518.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I, II and III are related as subcombinations disclosed as usable  
together in a single combination, i.e. generating or deriving a chemical structure  
diagrams in a complementary or modular product line, such as Applicant's modular

Art Unit: 2123

product lines inclusive of ChemDraw, ChemFinder, and Chem3D. The subcombinations are distinct from each other if they are shown to be separately usable.

In the instant case, invention I is a tabular system for representing and expressing structural symmetries that are manipulated based upon pivot points or mirror planes

which has separate utility such as a simulator for manipulating the structures, classified in 703/11. Whereas invention II, is directed to determining the chemical structure based upon force terms using optimal and current angles of symmetries is useful for molecular structure or composition determination, which is classified in 702/27. Invention III, is directed to managing the unused area for layout functions during displaying of chemical structures, which is useful for determining optimal layout space of information for displaying and presenting data, these inventions are classified in either 345/788 or 715/518. See M.P.E.P. § 806.05(d).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group III is not required for Group II nor Group I, restriction for examination purposes as indicated is proper.

5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement may be traversed (37 C.F.R. 1.143). Applicant is further reminded that any response wherein they elect a specified group, the remaining grouping of claims must be cancelled.

---

6. Examiner has provided a number of references listed on the accompanying P.T.O. 892 , that are considered pertinent to present invention. Careful consideration is suggested prior to responding the present election-restriction.

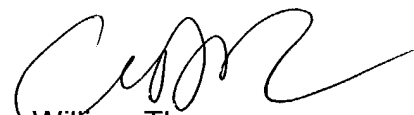
Examiner appreciates Applicant's diligence in providing an excellent response to the prior 1.105 requirement. The newly cited references have been uncovered based upon information provided in the response to the 1.105 request.

7. Examiner has not contacted the Attorney of record since in cases where the Restriction is deemed complex the attorney or agent should be afforded the benefit of receiving the action for careful review and time to formulate a response. This Restriction/Election is deemed complex by the Examiner. See M.P.E.P 812.01.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William D. Thomson whose telephone number is 703-305-0022. The examiner can normally be reached on 8:30-3:30 Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on 703-305-9704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William Thomson  
Primary Examiner  
T.C. 2100  
A. U. 2123  
June 21, 2004